2016

On the Sociology of Patenting

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Article

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INTRODUCTION

In a recent and somewhat controversial essay, Mark Lemley accuses apologists for the current intellectual property regime of irrationality in the face of contrary evidence.[1] Lemley points to a range of recent empirical legal studies suggesting that the intellectual property regime as currently constituted provides little or no benefit to society, or at least provides no discernible net incentive for innovative or creative behavior.[2] His indictment focuses on two related responses to such studies. The first is that, in the absence of empirical evidence supporting the provision of patents as an incentive to innovation,

† Chancellor's Professor of Law, University of California, Irvine. My thanks to Mark Lemley, Jessica Silbey, Laura Pedraza-Fariña, Stephanie Bair, Shauhin Talesh, Brenda Simon, Ted Sichelman, and participants in the 6th Annual Patent Professor's Workshop at the University of San Diego for their comments on previous versions of this work. Any remaining mistakes or errors are the result of commonly shared narratives that lend structure and meaning to social behavior.

1. Mark A. Lemley, *Faith-Based Intellectual Property*, 62 UCLA L. REV. 1328 (2015). Early responses include James Grimmelman, *Faith-Based Intellectual Property: A Response*, LABORATORIUM (2D SER.) (Apr. 21, 2015), http://2d.laboratorium.net/post/117023858730/faith-based-intellectual-property-a-response; Lisa Ouellette, *Lemley on Faith-Based IP*, WRITTEN DESCRIPTION (Apr. 2, 2015, 9:59 PM), http://writtendescription.blogspot.com/2015/04/lemley-on-faith-based-ip.html; Jeremy Sheff, *Faith-Based vs. Value-Based IP: On the Lemley-Merges Debate*, JEREMY SHEFF (Apr. 2, 2015), http://jeremysheff.com/2015/04/02/faith-based-vs-value-based-ip-on-the-lemley-merges-debate; Lawrence Solum, *Lemley on Non-Consequentialist Justifications for Intellectual Property*, LEGAL THEORY BLOG (Apr. 2, 2015, 11:30 AM), http://lsolum.typepad.com/legaltheory/2015/04/lemley-on-non-consequentialist-justifications-for-intellectual-property.html.

2. *Id.* at 1334–35.

and in the face of mounting evidence to the contrary, substantial numbers of stakeholders continue to cling to the incentive theory of patents and other intellectual property.[3] The second is that, despite the apparent failure of intellectual property as a utilitarian enterprise, some commentators have developed alternative, deontological theories to justify continued provision of intellectual property.[4] He brands these as unconscionably faith-based, because their irrational pre-requisites preclude meaningful dialog with rational, evidence-based policymaking.[5]

Lemley's indictment of intellectual property as resting on a sort of secular faith would come as little surprise, and in fact as something as a given, to many sociologists. Certain schools of sociological thought have long held that much of social behavior—including the modern reliance on objectivity and rationality—is based in widely accepted myths that enable coherent social functioning. In particular, the so-called "new institutional" school of sociology[6]—which, like other "new" schools of academic inquiry, has in fact been around for a good forty years—takes explicit account of non-rational scripts or narratives in its analysis of observed organizational characteristics.

Although this was probably not the intent of Lemley's essay, here I shall take his observations as a useful starting point for outlining a new view of what is occurring in the provision of intellectual property. I suggest that what he calls "faith-based" behaviors offer a compelling clue to certain puzzles in the observed operation of intellectual property, and are themselves a compelling phenomenon for study. I will argue that pursuing such studies militates a turn in intellectual property scholar-

3. *Id.* at 1335–36.

4. *Id*. at 1336–37.

5. *Id.* at 1346; *cf*. Brian L. Frye, *IP as Metaphor*, 18 CHAP. L. REV. 735 (2015) (arguing that metaphors attached to intellectual property rights obscure its utilitarian purposes).

6. Not to be confused with the "new institutional" school of *economics*, which Rob Merges and others, including myself, have argued may provide a useful alternate framework for understanding the economic functioning of intellectual property. *See* Robert P. Merges, *Intellectual Property Rights and the New Institutional Economics*, 53 VAND. L. REV. 1857 (2000); Dan L. Burk & Brett H. McDonnell, *The Goldilocks Hypothesis: Balancing Intellectual Property Rights at the Boundary of the Firm*, 2007 U. ILL. L. REV. 575 (applying principles drawn from new institutional economics to intellectual property rights). Political science also has its own separate strain of new institutionalism. *See* Peter A. Hall & Rosemary C.R. Taylor, *Political Science and the Three New Institutionalisms*, 44 POL. STUD. 936, 947 (1996).

ship toward the tools of new institutional sociology, which is probably long overdue. Along the way I will sketch a number of examples from the patent field that seem to me consonant with a new institutional analysis, and which I suspect would prove fruitful sites for further investigation. I conclude with some observations regarding what a new institutional analysis of patent law might look like going forward. While my comments are applicable to intellectual property generally, in this Article I will concentrate on the patent system as a particularly fertile area for such analysis.

I. THE PATENT PUZZLE

I should probably make clear at the outset that while I share Lemley's core insight—the notion that continued adherence to the virtue of intellectual property is essentially adherence to a kind of myth—I accept very little else in his essay. It seems to me, for example, quite possible to maintain a productive dialog in which the justifications for a particular legal regime differ and some of them are non-consequentialist. There are ongoing conversations in criminal law and tort law, for example, where some justifications such as deterrence are utilitarian—and founded on fairly dubious empirical evidence—and other justifications such as retributivism are entirely deontological.[7] It may be that the development of deontological intellectual property justifications is a resort to a kind of IP jingoism, adherence to the status quo at any cost, but it may also be part of a fairly normal jurisprudential discussion.[8]

7. *See, e.g.*, Kenneth W. Simons, *Deontology, Negligence, Tort and Crime*, 76 B.U. L. REV. 273 (1996) (arguing that in tort, as in criminal law, deontological justifications can be applied as well as utilitarian justifications).

8. To my mind intellectual property jurisprudence probably includes far too *little* in the way of deontological theory. Intellectual property scholarship seems to be fixated on Locke. *See, e.g.*, PETER DRAHOS, A PHILOSOPHY OF INTELLECTUAL PROPERTY 41–72 (1996); ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY 31–67 (2011); Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533 (1993) (applying Lockean natural law theory to intellectual property); Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L. REV. 287, 296–329 (1988). *But see* Carys J. Craig, *Locke, Labor and Limiting the Author's Right: A Warning Against a Lockean Approach to Copyright Law*, 28 QUEEN'S L.J. 1 (2002) (arguing that Locke is inapposite to intellectual property theory). The scholarship also makes occasional forays into the work of Kant and Hegel. *See, e.g.*, DRAHOS, *supra* at 73–94 (discussing Hegel); MERGES, *supra* at 68–101 (discussing Kant); Anne Barron, *Kant, Copyright*

I am rather less interested in the rise of such non-consequentialist rationales in intellectual property than I am in the continued persistence of patent incentive theory in the face of contrary evidence—that is, in adherence to a utilitarian explanation of intellectual property despite apparent failure on its own terms.[9] To the extent that proponents of intellectual property, particularly proponents of expansive intellectual property, rest their advocacy on a utilitarian theory of incentive, there is at best very little evidence to support such a position, and at worst a slowly growing body of evidence suggesting the contrary.[10] Thus Lemley's fundamental point regarding unprovable belief in intellectual property seems to apply with much greater force to adamant believers in utilitarian patent incentives.

The underlying disconnection is not a new one. Patenting has in fact looked fairly irrational for quite a long time. Viable justifications for patenting continue to remain at odds with both praxis and theory. The patent system exists, and patenting continues in ever increasing volume. But curiously, the majority of patents appear to go unlicensed, unenforced, and largely forgotten.[11] This is all the more puzzling because patents, unlike many other forms of intellectual property, do not spring into existence spontaneously once their subject matter has taken form; patents accrue only after an extended application pro-

and Communicative Freedom, 31 LAW & PHIL. 1 (2012); Hughes, *supra* at 330–64 (discussing Hegel); Neil Netanel, *Alienability Restrictions and the Enhancement of Author Autonomy in United States and Continental Copyright Law*, 12 CARDOZO ARTS & ENT. L.J. 1 (1992) (discussing Kant and Hegel). The potential contributions of the majority of the Western philosophical canon—Nietzsche, Descartes, Hume, Schopenhauer, Heidegger, Spinoza, Wittgenstein, Kierkegaard, etc.—remain essentially unexplored, not to mention any potential insights from non-European philosophical traditions.

9. *See generally* Dan L. Burk, *Law and Economics of Intellectual Property: In Search of First Principles*, 8 ANN. REV. L. & SOC. SCI. 397 (2012) (reviewing principal economic theories justifying intellectual property and their failings).

10. *See* Lemley, *supra* note 1, at 1332–34 (cataloging contrary evidence).

11. *See* Ann Bartow, *Separating Marketing Innovation from Actual Invention: A Proposal for a New, Improved, Lighter, and Better-Tasting Form of Patent Protection*, 4 J. SMALL & EMERGING BUS. L. 1, 11 (2000); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1503–04 (2001).

cess before a federal agency.[12] Firms spend significant sums acquiring patents, the majority of which then go unused. Assuming that the firms are behaving rationally, the expenditure of the costs and fees to obtain a patent must somehow be worthwhile, but there is little evidence that it is rationally justified by licensing income or similar returns from the patents they obtain.

Several theories have been proposed to explain why patenting nonetheless occurs. Commentators have noted that patents may serve other purposes, sometimes acting as assurances of quality by virtue of their governmental examination and certification; sometimes acting as funding collateral or means of finance; sometimes acting as a strategic deterrent to the threatening patents of competitors.[13] Most notably, some commentators, including Lemley, have argued that patents may serve as indicators of managerial quality, indicating to the market a high degree of business acumen in the firm that possesses them.[14] In a frequently cited article, Clarissa Long has articulated an elaborate model for such patent signaling, complete with formal economic models.[15] This function is expected to depend in large measure on the accuracy of patents as signals for a firm's competencies, and on the comparative expense to less competent firms of using patents as such indicators.[16]

All these alternative rationales for patenting are for the most part based on some sort of utility maximization; reflecting the dominance of neo-classical "Chicago school"[17] economics in the American legal academy, they tend to follow rational actor models. All of them assume that individuals are behaving in some predictable, strategic way to further their material interests. Just as importantly where patents are concerned, such rationales also assume that large organizations such as corporations and universities are behaving in predictable, strategic

12. *See* Dan L. Burk & Jessica Reyman, *Patents as Genre: A Prospectus*, 26 LAW & LIT. 163, 168 (2014).

13. *See* Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. SMALL & EMERGING BUS. L. 137 (2000).

14. *See* Lemley, *supra* note 11, at 1505–06.

15. Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625 (2002).

16. *Id.* at 648–50.

17. *See generally* JOHAN VAN OVERTVELDT, THE CHICAGO SCHOOL: HOW THE UNIVERSITY OF CHICAGO ASSEMBLED THE THINKERS WHO REVOLUTIONIZED ECONOMICS AND BUSINESS (2007) (discussing the Chicago school of economic thought).

ways to further the organization's interests. It is well understood that much, if not most, patented innovation and patent procurement occurs in the context of large research ensembles: sometimes universities, but more often industrial research groups, or as Peter Lee reminds us, industrially funded university research.[18]

Some inroads have of course been made into strict rational actor assumptions. Behavioral economics, exploring and documenting a variety of deviances from the rational actor paradigm, begins to acknowledge that individuals do not always behave in strict accordance with the predictions of rational actor theory: some "irrationalities" are common or pervasive deviations from welfare maximization.[19] Some of the empirical work on patenting follows this behavioral school.[20] Yet even such behavioral experimentation often carries the assumption that such quirks are aberrations from the norm, which need to be taken into account in order to fine-tune the rational actor model.[21] There seems to be little concern that such departures from rational utility maximization might themselves be the norm, to which formally predicted rationality is instead the aberration.

And yet there is little or no extant evidence for predicted outcomes of such economically rational action. For example, the empirical evidence for the signaling model is mixed,[22] and prob-

18. Peter Lee, *Transcending the Tacit Dimension: Patents, Relationships, and Organizational Integration in Technology Transfer*, 100 CAL. L. REV. 1503, 1550–51 (2012).

19. *See* Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1477–78 (1998); Cass R. Sunstein, *Behavioral Analysis of Law*, 64 U. CHI. L. REV. 1175, 1175 (1997).

20. *See, e.g.*, Christopher Buccafusco & Christopher Sprigman, *The Creativity Effect*, 78 U. CHI. L. REV. 31 (2011) (examining endowment effects); Christopher Buccafusco & Christopher Sprigman, *Valuing Intellectual Property: An Experiment*, 96 CORNELL L. REV. 1 (2010) (same).

21. *See, e.g.*, Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551 (1997) (arguing that rational actor models are robust enough to incorporate behavioral economic variations); *see also* Robert C. Ellickson, *Bringing Culture and Human Frailty to Rational Actors: A Critique of Classical Law-and-Economics*, 65 CHI.-KENT L. REV. 23, 25 (1989) (arguing that insights from sociology and psychology could improve rather than supplant the rational actor model).

22. *See, e.g.*, Sebastian Hoenen et al., *The Diminishing Signaling Value of Patents Between Early Rounds of Venture Capital Financing*, 43 RES. POL'Y 956, 956 (2014) (finding that small firms benefit from a patent quality signal only in the first, but not the second, round of start-up financing); Daniel Hoenig & Joachim Henkel, *Quality Signals? The Role of Patents, Alliances,*

ably tends not to support that justification—not surprisingly, there is evidence that investors look to more immediate signals of firm competence, such as managerial credentials and experience, to make judgments about the firm.[23] It may of course be that the existing evidence is faulty. Much of the empirical work to which Lemley points is by its own admission preliminary; much of it is published within the law review system and so lacks the benefit of peer review. At the same time, even if the evidence suggesting that intellectual property law does not provide its purported benefits is tenuous, there is little or no contrary evidence to demonstrate that intellectual property law *does* in fact provide a utilitarian benefit.

II. NEW INSTITUTIONALISM

If Lemley's ultimate conclusion regarding the incommensurability of deontological claims seem to me suspect (and perhaps a bit intemperate), his underlying premise, that patents are the opiate of the technocracy,[24] seems on the contrary illuminating, although perhaps not quite in the way it was likely intended. One might say that the irrationality in the system runs deep, in more than one sense of the term. On Lemley's view, not only are patents and other intellectual property inexplicable in the economically rational sense, but in the absence of evidence to support these models, continued adherence to their premises appears irrational in the colloquial sense. In particular, continued devotion to the incentive theory of intellectual property seems purely a matter of dogma, more an act of faith than an act of reason.[25] The fundamental premise of the patent system is a myth.

In some sense this observation should not be especially surprising. We live in a society in which such justifying myths

and Team Experience in Venture Capital Financing, 44 RES. POL'Y 1049, 1052, 1058–61 (2015) (finding that patents are valued for their exclusivity, not as a signal); Dirk Czarnitzki et al., *Patents as Quality Signals? The Implications for Financing Constraints on R&D* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 19947, 2014) (finding that small firms, but not large firms, benefit from a patent quality signal).

23. *See* Hoenig & Henkel, *supra* note 22, at 1053–54.

24. *See* Lemley, *supra* note 3, at 1336.

25. *See id.* at 1337.

are frequent, ubiquitous, and pervasive[26]: hard work pays off in the end, all men are created equal, free enterprise leads to prosperity, honesty is the best policy, and untold similar cultural tropes are generally and reflexively assumed in social action. Countless millions rely, consciously or unconsciously, on these attitudes in structuring their most routine conduct, although the veracity of the premises is at least suspect. Most such assumptions are probably wrong at some level, and many seem demonstrably false. Certainly very few such assumptions are likely to be empirically verified. Faith-based intellectual property has plenty of faith-based company.

Such pervasive, dogmatic irrationalities have not gone unnoticed by those who study social behavior, and in particular by those who study organizational behavior.[27] Much of the impetus of the new institutional literature is an attempt to escape the stylized rational actor models prevalent not only in neoclassical economic thinking, but appearing as a disciplinary spillover in other areas of social science.[28] In particular, new institutionalists have resisted ascribing economically rational action to social organizations such as business firms or state agencies, which have no intrinsic motivations or expectations, but rather display the emergent conglomerate action of their constituent members.[29] Regarded as complex social entities, such organiza-

26. *See* Roger Friedland & Robert P. Alford, *Bringing Society Back in: Symbols, Practices, and Institutional Contradictions*, *in* THE NEW INSTITUTIONALISM IN ORGANIZATIONAL ANALYSIS 232, 249 (Walter W. Powell & Paul J. DiMaggio eds., 1991) (describing the social relationship between symbolic systems and material practices).

27. As Nobel laureate Douglass North observes, for example:

> It is necessary to dismantle the rationality assumption underlying economic theory in order to approach constructively the nature of human learning. History demonstrates that ideas, ideologies, myths, dogmas, and prejudices matter; and an understanding of the way they evolve is necessary for further progress in developing a framework to understand societal change.

Douglass C. North, *Economic Performance Through Time*, *in* THE NEW INSTITUTIONALISM IN SOCIOLOGY 247, 250 (Mary C. Brinton & Victor Nee eds., 1998).

28. Julia Black, *New Institutionalism and Naturalism in Socio-Legal Analysis: Institutionalist Approaches to Regulatory Decision-Making*, 19 LAW & POL'Y 51, 61 (1997); Martha Finnemore, *Norms, Culture, and World Politics: Insights from Sociology's Institutionalism*, 50 INT. ORG. 325, 329 (1996).

29. *See* Marietta Baba et al., *New Institutional Approaches to Formal Organizations*, *in* A COMPANION TO ORGANIZATIONAL ANTHROPOLOGY 74, 90 (D. Douglas Caulkins & Ann T. Jordan eds., 2013).

tions may be viewed as instead existing according to certain scripts or myths that mediate the interaction of their constituent membership with the larger ecology of social actors.[30]

Note that the term "myth" is used here not so much in the colloquial sense of a fantasy or falsehood (although they may indeed be such) but rather to designate pervasive social understandings or ideologies that bind communities together[31]—recalling in some ways Mircea Eliade's definition, in a different context, of myth as a story that is true but not factual.[32] The myths contemplated by new institutionalism constitute accepted tropes or narratives that articulate socially accepted rationales for achieving desired ends.[33] These rationales are implemented as organizational structures; organizations then become sites for enacting and re-enacting the ceremonial paradigms and ideologies prevalent in their social environment.[34]

Such ceremonial behavior is sufficiently ingrained in social behavior that it becomes nearly invisible, but the adoption of ceremonial trappings in conformity with social myths is fairly common, as are the sequelae that flow from such conformities. Everyday examples offer familiar illustrations of how social ceremonies work. A white coat and stethoscope are part of the ceremonial garb of the modern Westernized physician.[35] There is no particular reason that the coat need be white; it might just as well have been pink or green, but white is the convention that modern Western societies have settled on as the trope indicating medical expertise. Neither does the white coat and stethoscope convey any substantive information about the com-

30. *See* John W. Meyer & Brian Rowan, *Institutionalized Organizations: Formal Structure as Myth and Ceremony*, 83 AM. J. SOC. 340, 340 (1977).

31. *See generally* ROLAND BARTHES, MYTHOLOGIES (Annette Lavers trans., 1972) (exploring the structure and significance of modern cultural myths).

32. *See* MIRCEA ELIADE, MYTH AND REALITY 5–8 (Willard R. Trask trans., 1963).

33. *See* Meyer & Rowan, *supra* note 30, at 344. Some work has attempted to avoid the popular connotations of the term "myth" by using the term "institutional logic." *See, e.g.*, Friedland & Alford, *supra* note 26, at 248 (describing the symbolism associated with society's expression of values).

34. *See* Meyer & Rowan, *supra* note 30, at 346.

35. *Cf.* Lenny Bernstein, *Heart Doctors Are Listening for Clues to the Future of Their Stethoscopes*, WASH. POST (Jan. 2, 2016), https://www.washingtonpost.com/national/health-science/heart-doctors-are-listening-for-clues-to-the-future-of-their-stethoscopes/2016/01/02/bd73b000-a98d-11e5-8058-480b572b4aae_story.html ("The stethoscope is also an icon, of course.").

petence of the wearer; the wearer may be highly accomplished or may instead be a quack. Indeed, an accountant or a plumber with no medical training might well command a good deal of deference simply by donning a white coat and walking around a hospital.

Social tropes and ceremonies very commonly change the structure of the organizations they permeate. Once the white coat comes into use, it may be incumbent on physicians to acquire one, whether or not the garment is actually germane to the duties they perform. Further, once white coats have been adopted, certain ancillary changes to hospitals and clinics will inevitably follow: vendors will vie to supply white coats, medical providers will need to make provision for their purchase and distribution, medical facilities will need to install hooks and hangers for their storage, and to provide laundry services for their cleaning. It may even make sense to regulate their use in order to prevent fraud or misperceptions, requiring white coats under some circumstances or forbidding them at others. The white coat becomes institutionalized in a particularly social sense of the word.

A. UNDERSTANDING INSTITUTIONS

The use of the term "institution" as I have just employed it requires some explanation, as in new institutionalism it constitutes a term of art. As its name implies, new institutionalism is concerned with the nature and action of institutions, but this entails meanings different than either those of colloquial usage or those of usage in other disciplines. As considered by new institutional sociology, institutions are emergent and generalized systems of factors that constrain individual action and produce regular patterns of behavior without being repeatedly mobilized to do so.[36] Thus the concept of "institution" is fairly broad and somewhat ambiguous, including a wide range of social arrangements.[37] One prominent commentator has defined the concept as comprising the "cognitive, normative, and regulative

36. *See* Ronald L. Jepperson, *Institutions, Institutional Effects, and Institutionalism*, *in* THE NEW INSTITUTIONALISM IN ORGANIZATIONAL ANALYSIS 143, 145 (Walter W. Powell & Paul J. DiMaggio eds., 1991).

37. *See* John W. Meyer et al., *Ontology and Rationalization in the Western Cultural Account*, *in* INSTITUTIONAL ENVIRONMENTS AND ORGANIZATIONS: STRUCTURAL COMPLEXITY AND INDIVIDUALISM 9, 10 (W. Richard Scott et al. eds., 1994).

structures and activities . . . that provide stability and meaning to social behavior."[38]

New institutionalism incorporates a strong "cognitive turn" in sociology, asserting that social institutions provide scripts and behavioral models that do not merely define proper behavior, but by which individuals construct social realities.[39] Institutions provide the frames that guide human action, defining the universe of conceivable behaviors in a given situation.[40] Institutional tropes both allow individuals to recognize a given situation and supply the proper scripts with which to react.[41] The terminology of the theater stage, such as "script," used to describe institutionalism is quite deliberate; as social actors enter into particular social roles they both adopt and reinforce the socially appropriate scripts that structure their behavior.[42]

Thus, institutions may be best identified by what they do, rather than by particular forms or categories. Institutions define what preferences and goals are acceptable and socially sanctioned.[43] They prompt reciprocally typified instances of habitualized behavior; that is to say, they constitute shared meanings or understandings linked to particular customary behaviors.[44] Such behaviors are developed to address recurring problems, and are invoked almost automatically in response to particular situations.[45] These customary patterns of behavior are viewed by their adherents, when they think about them at all, as essential, indispensable, and commonplace; consequently they serve as important sources of social stability.[46]

38. W. RICHARD SCOTT, INSTITUTIONS AND ORGANIZATIONS 33 (1995).

39. Hall & Taylor, *supra* note 6, at 948.

40. *See* MARY DOUGLAS, HOW INSTITUTIONS THINK 4 (1986); Hall & Taylor, *supra* note 6.

41. *See* Hall & Taylor, *supra* note 6, at 948.

42. *See* John W. Meyer, *Reflections on Institutional Theories of Organizations*, *in* THE SAGE HANDBOOK OF ORGANIZATIONAL INSTITUTIONALISM 790, 794 (Royston Greenwood et al. eds., 2008).

43. *See* Black, *supra* note 28, at 68.

44. *See* PETER L. BERGER & THOMAS LUCKMANN, THE SOCIAL CONSTRUCTION OF REALITY: A TREATISE IN THE SOCIOLOGY OF KNOWLEDGE 54 (1967).

45. *See* Pamela S. Tolbert & Lynne G. Zucker, *The Institutionalization of Institutional Theory*, *in* HANDBOOK OF ORGANIZATION STUDIES 175, 180 (Stewart R. Clegg et al. eds., 1996).

46. *Cf.* Lynne G. Zucker, *The Role of Institutionalization in Cultural Persistence*, 42 AM. SOC. REV. 726 (1977) (analyzing the relationship between institutionalization and generational uniformity, maintenance, and resistance).

Perhaps most importantly, the term "institution" in this parlance is not synonymous with the term "organization," but rather designates ambient norms and conventions that have become social fixtures, lending them legitimacy.[47] Such cultural constructs or scripts may be reflected in structural organizations.[48] A key tenet of new institutionalism is that localized individual and organizational actions are influenced by institutions that operate in a wider environment.[49] Thus the level of analysis for new institutionalism is that of the organizational *field*, which might also be termed the arena of action.[50] The field comprises a community of disparate organizations that engage in common activities subject to similar influences.[51] Fields are often contested, incorporating competing interests, and gain stability by organizing around well-defined patterns of behavior that exert homogenizing pressures on the constituent organizations.[52] Thus the social rules and practices that are pervasive throughout an organization's field set the framework for the organization's structure and outlook.[53]

B. ORGANIZATIONS

Much of the impetus for new institutionalism has been investigation of the similarities, or isomorphisms, of organizations in diverse settings.[54] New institutionalists consider the origins of organizational templates, their promulgation, and their transformations.[55] Rational actor models assert that organizations develop particular characteristics in response to market

47. *See* Black, *supra* note 28, at 57.

48. *See* Edwin Amenta & Kelly M. Ramsey, *Institutional Theory*, *in* HANDBOOK OF POLITICS: STATE AND SOCIETY IN GLOBAL PERSPECTIVE 15, 19 (Kevin T. Leicht & J. Craig Jenkins eds., 2010).

49. *See* Meyer, *supra* note 42, at 790.

50. *See id.* at 792.

51. *See* Paul J. DiMaggio & Walter W. Powell, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*, 48 AM. SOC. REV. 147, 147 (1983).

52. *See* Andrew J. Hoffman, *Institutional Evolution and Change: Environmentalism and the U.S. Chemical Industry*, 42 ACAD. MGMT. J. 351, 357 (1999).

53. *See* Black, *supra* note 28, at 57–58.

54. *See* Thomas B. Lawrence & Masoud Shadnam, *Institutional Theory*, *in* 5 THE INTERNATIONAL ENCYCLOPEDIA OF COMMUNICATION 2289, 2290 (Wolfgang Donsbach ed., 2008).

55. *See* SCOTT, *supra* note 38, at 44.

forces that require competitive efficiency, implying that similar structures are a response to the dictates of efficiency. But new institutionalists largely reject the notion that organizational decisions and resultant behaviors constitute a rational response to achieve efficiency in the face of external stimuli.[56]

Rather, new institutionalism holds that organizations make decisions, not necessarily to solve existing problems or to further functional needs, but out of the convergence of opportunity, strategic interests, and internal and external influences. Some new institutionalists have addressed this irregular mélange of discordant factors that has been dubbed the "garbage can" model of organizational decision-making.[57] These analyses observe uncertainty rather than rationality leading to decisions, and just as often observe it leading to non-decisions or failures to act.[58] New institutionalist approaches suggest that organizations deal with uncertainty by adopting accepted routines that are regarded as stable and legitimate.[59] Such readily available models, pervasive throughout a given field, may be supplied by a variety of exogenous sources, particularly by law, by culture, or by professional expertise.

Thus new institutionalism has been particularly concerned with the way that organizational structures are shaped by regulation, normative custom, and pervasive social scripts.[60] This set of influences has been designated by some as coercive, mimetic, and normative.[61] In the first category are formal or informal pressures from outside the organization: the state or other cultural institutions may impose requirements on organizations that make them resemble one another.[62] Second, organizations may come to resemble one another because leaders or managers consciously imitate models seen in other organizations—in particular, professionals within organizations, such

56. *See* NILS BRUNSSON, THE IRRATIONAL ORGANIZATION: IRRATIONALITY AS A BASIS FOR ORGANIZATIONAL ACTION AND CHANGE 3–4 (1985); Black, *supra* note 28, at 59.

57. *E.g.*, Michael D. Cohen et al., *A Garbage Can Model of Organizational Choice*, 17 ADMIN. SCI. Q. 1 (1972).

58. *See* Meyer, *supra* note 42, at 789.

59. *See* Black, *supra* note 28, at 60.

60. *See* Walter W. Powell & Jeannette Anastasia Colyvas, *New Institutionalism*, *in* INTERNATIONAL ENCYCLOPEDIA OF ORGANIZATION STUDIES 975, 976 (Stewart R. Clegg & James R. Bailey eds., 2008).

61. *See, e.g.*, DiMaggio & Powell, *supra* note 51, at 150.

62. *See id.*

as attorneys, accountants, or managers may draw on educational or professional knowledge to provide mimetic structures.[63] Organizations may also resemble one another due to norms or social obligations that have been internalized by their constituents.[64]

Of particular interest here is the organizational adoption of policies, structures, and programs in order to align themselves with dominant social myths. In many cases this is not a calculated decision; it is simply accepted as the way things are properly done.[65] In a more deliberative mode, organizations may be seeking social conformity through ceremonial or symbolic practices that communicate legitimacy to their various constituencies.[66] Ambient social rituals and symbols may be mobilized strategically to legitimate particular ends.[67] Many organizational structures implement ceremonial functions intended to demonstrate the organization's acceptance and adoption of external values.

One implication of this approach is that formal structures may be not only functional, but also symbolic, signaling an organization's investment in shared social narratives and expectations.[68] Indeed, the adoption of structures or practices may not be dictated by the organization's goals or by its functions, but rather by the need for legitimacy and social order. The structures and policies adopted may not necessarily be more efficient in the functional sense of furthering the organization's operations, but they are determined responses to the social environment.[69] Satisfying institutionalized myths may take precedence over functionality.[70]

For example, as Meyer and Rowan observed nearly forty years ago in their germinal article on institutional myths,[71] re-

63. *See id.* at 151.

64. *See id.* at 152.

65. *See* Friedland & Alford, *supra* note 26, at 254.

66. *See* James G. March & Johan P. Olsen, *The New Institutionalism: Organizational Factors in Political Life*, 78 AM. POL. SCI. REV. 734, 742 (1984).

67. *See* Black, *supra* note 28, at 69; Friedland & Alford, *supra* note 26, at 254.

68. *See* Lauren Edelman, *Legal Ambiguity and Symbolic Structures: Organizational Mediation of Civil Rights Law*, 97 AM. J. SOC. 1531, 1567–68 (1992); Lawrence & Shadnam, *supra* note 54, at 2289–90.

69. *See* Lawrence & Shadnam, *supra* note 54.

70. *See* Meyer & Rowan, *supra* note 30, at 340–41.

71. *Id.*

search and development programs may in fact produce research and development, but that is perhaps the least of their institutional functions. Such programs also signal the propriety, authenticity, sobriety, and competiveness of the firm. Serious, respectable, innovative firms have research and development programs; firms without a research and development program are unattractive prospects for investment or employment. The rationale or social trope for research and development programs may be that they will produce new and innovative products or methods, yielding a competitive advantage, and a firm that is not at least trying to generate such advantages may be less competitive. But regardless of what a given research and development program *actually* produces, the lack of a program may be viewed with suspicion by shareholders, investors, customers, and other constituencies within the firm's field.

Similarly, some studies show corporations adopt formal procedures for employee due process both to mollify potentially disgruntled employees and to show good-faith compliance with regulatory requirements.[72] Employers who comply with such expectations are more likely to secure government contracts or grants, attract qualified workers, and deflect regulatory scrutiny.[73] Indeed, the survival and success of organizations may be dependent on the adoption of structures that signal social participation and conformity, rather than dependent on the organization's actual functions or performance.[74] By incorporating the rationalized narratives of its surrounding community, the organization reflects collective values, garners social approval, and deflects criticism or adverse scrutiny. This serves to promote the stability, survival, and success of an organization by aligning both internal and external constituencies with pervasive social scripts.

At the same time, this influential dynamic flows in both directions, meaning that the institutional tropes within an organizational field also influence law or regulation relevant to that field. Managerial practices and assumptions influence the way

72. *See* Lauren B. Edelman et al., *The Endogeneity of Legal Regulation: Grievance Procedures as Rational Myth*, 105 AM. J. SOC. 406, 406 (1999); John Sutton et al., *The Legalization of the Workplace*, 99 AM. J. SOC. 944, 946 (1994).

73. *See* Edelman, *supra* note 68, at 1542.

74. *See* Meyer & Rowan, *supra* note 30, at 352; Tolbert & Zucker, *supra* note 45, at 178.

in which organizations understand law and compliance with the law.[75] These logics spread from organization to organization within the organizational field by mimesis, by professional networking, and by other educational exchanges. Eventually they become routinized background assumptions that are taken for granted. Courts frequently adopt or defer to custom in an industry.[76] Legislatures similarly incorporate the routine practices of organizational fields into the regulations governing that field.[77] Thus recent research has shown in a number of circumstances how these routinized understandings of law shape the content and meaning of judicial decisions and legislation.[78]

C. LOOSE COUPLING

As I have described, new institutionalism posits the ceremonial adoption of organizational functions, either as a matter of course, or to conform to expectations in the field. At the same time, it is well understood that there is likely to be a gap between social expectation and actual practice, between the myth and reality.[79] The signal sent by ceremonial adoption of a program or organizational structure may be pure façade, having little to do with the organization's actual working functions. Pervasive myths or tropes may be necessary to legitimacy and cohesion, but because they are not necessarily grounded in the actual function of an organization, they may be detrimental to smooth or efficient operation of the organization. Ceremonial compliance may divert resources from core functions, or in

75. *See, e.g.*, Lauren B. Edelman et al., *Diversity Rhetoric and the Managerialization of Law*, 106 AM. J. SOC. 1589 (2001) (analyzing managerial practices relating to diversity); Anna-Maria Marshall, *Idle Rights: Employees' Rights Consciousness and the Construction of Sexual Harassment Policies*, 39 LAW & SOC'Y REV. 83 (2005) (arguing that managerial practices relating to sexual harassment limit protection for women).

76. *See* Lauren B. Edelman et al., *When Organizations Rule: Judicial Deference to Institutionalized Employment Structures*, 117 AM. J. SOC. 888, 889 (2011).

77. *See* Shauhin A. Talesh, *Institutional and Political Sources of Legislative Change: Explaining How Private Organizations Influence the Form and Content of Consumer Protection Legislation*, 39 L. & SOC. INQ. 973, 973 (2014).

78. *See* Lauren B. Edelman, *Overlapping Fields and Constructed Legalities: The Endogeneity of Law*, *in* PRIVATE EQUITY, CORPORATE GOVERNANCE AND THE DYNAMICS OF CAPITAL MARKET REGULATION 55, 81–90 (Justin O'Brien ed., 2007).

79. *See* Meyer & Rowan, *supra* note 30, at 356.

some cases may demand actions that are diametrically opposed to those that would further an organization's actual work.[80]

Consequently, new institutionalism predicts that at times there may be a dissociation between actual practice and social convention, allowing both to simultaneously exist without conflict. Organizations may accomplish this by instituting only a "loose coupling" between the social narratives by which they ostensibly operate and the actual procedures and systems under which they in fact operate.[81] Such loose coupling between the real and the ideal allows both myth and reality to co-exist in the same organization, by paying lip service to the proper social script while essential organizational activity proceeds separately.[82] Compliance with the prevailing myth may exist in parallel with de facto disregard of the social trope, and even alongside outright noncompliance.[83]

Indeed, where an organization has bifurcated social scripts from its actual operations, full implementation of the social scripts may precipitate a crisis within the organization, crippling its regular functions. For example, detailed ethnographic study of one public school highlighted the loose coupling between actual administrative practice in the school and the pervasive public rhetoric of teacher accountability and student assessment.[84] Although the school was by necessity required to adopt and repeat the public tropes related to education, these were in practice largely ignored and given largely superficial lip service, while teachers instead focused on actual student needs and learning.[85] Subsequent attempts to more tightly align school practice with the tropes of accountability and assessment disrupted the normal teaching and learning mechanisms of the school, creating chaos and dysfunction and leading to a

80. *Cf.* Karl E. Weick, *Educational Organizations as Loosely Coupled Systems*, 21 ADMIN. SCI. Q. 1, 1–3 (1976) (noting that in some "loosely coupled" systems, there may be little relationship between an organization's goals and its methods).

81. *See* Meyer, *supra* note 42, at 802–03.

82. *See* Kimberly D. Elsbach & Robert I. Sutton, *Acquiring Organizational Legitimacy Through Illegitimate Actions: A Marriage of Institutional and Impression Management Theories*, 35 ACAD. MGMT. J. 699, 699 (1992).

83. *See* Weick, *supra* note 80, at 7.

84. *See* Tim Hallett, *The Myth Incarnate: Recoupling Processes, Turmoil, and Inhabited Institutions in an Urban Elementary School*, 75 AM. SOC. REV. 52 (2010).

85. *Id.* at 59–62.

breakdown of not only the routine functions of the school, but of the outcomes that were ostensibly expected to proceed from accountability and assessment.[86]

III. RATIONALITY REDUX

The new institutional emphasis is on socially compliant behavior, and while this is taken as a separate question from that of economic rationality, the sociological analysis is not necessarily entirely divorced from the concept of rationality—at least, not from rationality of a certain type. Some commentators have begun exploring this territory between new institutionalism and rational action, relying on concepts of bounded rationality that assume actors behave rationally under constraints of limited information and immediacy.[87] Social scripts and myths might be said to set the bounds within which an actor behaves. And, as I have mentioned previously, at the organizational level, adopting the social scripts prevalent in the field might be viewed as rational, even strategic, in the sense that an organization which signals social compliance is more likely to attract resources and attain a stable position that allows it to survive.[88]

But the rationality of social institutionalism is not the rationality of neo-classical economics. New institutional rationality is not merely bounded, but so bounded as to lie nearly out of the bounds contemplated by economic analysis. Rational economic action has been defined as choosing the best means to achieve the chooser's ends.[89] But new institutionalism recognizes that the chooser's preferences and the acceptable means do not exist independently; they are the result of the same social environment that defines both what is desirable and which means are "best."[90] Institutional influences define both what is desirable and how desires are satisfied. For example, within an organization, the individual's position and responsibilities will tend to define his or her preferences.[91] An individual's prefer-

86. *Id.* at 62–66.

87. *E.g.*, Victor Nee, *Sources of the New Institutionalism*, *in* THE NEW INSTITUTIONALISM IN SOCIOLOGY 1, 10–12 (Mary C. Brinton & Victor Nee eds., 1998).

88. *See supra* notes 65–67 and accompanying text.

89. *See* Posner, *supra* note 21, at 1551.

90. *See* Friedland & Alford, *supra* note 26, at 233–34.

91. *See id.*

ences, which undergird her rational choices, are not only bounded but defined by social influences and relationships to other actors.[92]

Stated differently, new institutionalism views both rationality and efficiency as socially constructed concepts.[93] Thus the cognitive basis for new institutionalism posits individuals acting rationally, not necessarily in the sense of advancing their material well-being, but in the sense of defining and expressing their identities in socially appropriate ways.[94] Organizational responses and structures that become institutionalized within an organizational field *come be to be seen as rational*. The new institutional inquiry is not whether a given activity optimizes either personal or social welfare; the question is instead whether there is an acceptable legitimizing explanation for the activity. The explanation offered for a given behavior may well be the purported optimization of personal or social welfare, but it is the acceptability of the story, rather than its objective effect, that is important. Thus the actors of the new institutionalism are less rational utility maximizers than they are maximal utility rationalizers.

This is not to say that efficiency and market forces play no role in the structure or behavior of organizations, only to say that these are at best one component in a complex matrix of influences on such institutions. Meyer and Rowan suggest that the relative influence of market efficiency and social narratives may be determined by the type of production and the outputs in different sectors;[95] Tolbert and Zucker suggest that both market influences and social influences are likely to be present in different measures in different situations at different times.[96] Moreover, adherence to the prevailing script may be to some extent a self-fulfilling prophecy: investors are more likely to invest in a firm that is behaving properly innovatively, thus providing it with the resources that could in fact foster innovation. Innovative employees may gravitate to firms that follow the innovation script, imbuing the firm with the talent needed for engaging in actual innovation. Customers seeking innova-

92. *See* Black, *supra* note 28, at 64.
93. *See* Finnemore, *supra* note 28.
94. *See* Hall & Taylor, *supra* note 6, at 949.
95. Meyer & Rowan, *supra* note 30, at 354.
96. Tolbert & Zucker, *supra* note 45.

tive solutions may buy from firms perceived as innovative, spurring the firm to supply innovative products.

But as the literature on loose coupling suggests, social imperatives and efficiency may conflict with one another, dictating opposing organizational structures and incompatible resource allocation. An organization that is wholly indifferent to the efficiency of its functions is likely not long for this world, but it seems nonetheless clear that a highly efficient organization that lacks the trust and approval of its associated constituencies is also not long for this world. At the same time, highly inefficient organizations that have gained social respect and validation may endure a very long time indeed. Indeed, the framework of institutional legitimacy offers a plausible theory as to the survival of any number of inefficient political, social, and business organizations that would otherwise be expected to have failed and disappeared long ago.[97]

IV. NEW INSTITUTIONAL PATENTING

As Professor Lemley observes, patents seem not to fit well into economic incentive models.[98] But they may prove a better fit to the parameters of new institutionalism that I have described above. New institutional approaches offer two characteristic features that may be of particular use in considering the social role of patents. First, new institutional analysis focuses on the distinctive qualities of organizations, and that seems clearly the correct level of scrutiny for patenting behavior. Patent scholarship has tended to focus on behavior at the individual, rather than the corporate level,[99] but patents are overwhelmingly obtained, held, and enforced by organizations,

97. *See* MARSHALL W. MEYER & LYNNE G. ZUCKER, PERMANENTLY FAILING ORGANIZATIONS 45 (1989).

98. *See* Lemley, *supra* note 1, at 1337.

99. For example, commentators such as Stephanie Bair and Greg Mandel have canvassed the psychological literature to assess its consonance with incentive theory and other justifications for patenting, but primarily at the level of individual rather than organizational behaviors. *See* Stephanie Plamondon Bair, *The Psychology of Patent Protection*, 48 CONN. L. REV. 297 (2015) (discussing patent incentives' psychological effects on individuals); Gregory N. Mandel, *To Promote the Creative Process: Intellectual Property Law and the Psychology of Creativity*, 86 NOTRE DAME L. REV. 1999 (2011) (discussing the patent system's effect on individual creativity).

typically corporations or universities.[100] New institutionalism moves the conversation further in the direction begun by Stephanie Bair, who has argued that the corporate-social milieu must be taken into account in assessing the efficacy of the incentive rationale for intellectual property,[101] or by Julie Cohen, who has shown how intellectual property is a form of property best viewed as an incentive to the corporate entity, not the individual.[102]

Of course the prevalent discourse on intellectual property is not couched in terms of corporate property, but is perfused instead by the myth of the solitary genius who is motivated and rewarded for his efforts.[103] And that brings us to the second useful feature of new institutionalism, which is its orientation toward assessing the effects of those myths that are prevalent in the field. Jessica Silbey has already gestured in this direction in pioneering work on the power of narrative in justifying intellectual property allocations.[104] A new institutional approach pushes such observations a step further, suggesting the primacy of narrative for organizational behaviors and structures involving intellectual property in general, and patents in particular.[105]

Taking such myths seriously suggests that patent law shapes preferences and structures social action,[106] but not necessarily in the manner contemplated under the myth of incen-

100. John R. Allison & Mark A. Lemley, *Who's Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2117 (2000); Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 615 (2008).

101. Stephanie Bair, *Employee Creativity*, YOUTUBE (Dec. 10, 2015), https://www.youtube.com/watch?v=m9ZFvBncAzw&app.

102. Julie E. Cohen, *Copyright as Property in the Post-Industrial Economy: A Research Agenda*, 2011 WIS. L. REV. 141, 143 (characterizing intellectual property as an incentive for capital rather than an incentive for creativity).

103. *See* Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709, 709 (2012).

104. *See* Jessica Silbey, *The Mythical Beginnings of Intellectual Property*, 15 GEO. MASON L. REV. 319 (2008); *see also* Frye, *supra* note 5 (critiquing intellectual property tropes).

105. Kevin Collins has explored some aspects of semiosis within patent doctrine. Kevin Emerson Collins, *Semiotics 101: Taking the Printed Matter Doctrine Seriously*, 85 IND. L.J. 1379 (2010). Here the patent itself becomes a social signifier. *Cf.* BARTHES, *supra* note 31, at 111–26 (explaining the semiotics of cultural myth).

106. *See* Black, *supra* note 28, at 75.

tive to innovate. Rather, patent law carries a narrative as to what is socially acceptable or desirable; patent acquisition is then either routinely accepted as what organizations ought to do, or may even be instrumentally deployed to signal conformity with that narrative.[107] In either case, acquisition of patents appears strongly ceremonial, demonstrating organizational adherence to prevalent narratives of innovation, competition, and success. Patents may demonstrate to venture capitalists, shareholders, creditors, and other constituencies that the firm is behaving as it ought. Patent acquisition may satisfy these constituencies that the firm is technologically progressive and innovative, worthy of the trust that investment or employment entails.

On this theory, acquisition of patents sends a type of signal to competitors, employees, and investors, and so may seem reminiscent of the Long signaling model of patents as an indicator of a firm's qualities.[108] But new institutionalism cautions that adherence to cultural myths is not necessarily a signal regarding a firm's actual or functional qualities, and certainly not a signal of economic efficiency.[109] Rather, the signal in question here is a social or ceremonial signal, not an economic one. The signal is one of compliance and reputability, an indication of *participation in the expected social order*. Patents serve as a token of such compliance because they are integral to the pervasive narrative of innovation, of competence, of competitiveness. The firm may or may not in fact be innovative, competent, or competitive, but that is largely beside the point: holding patents demonstrates its adoption of the proper role in the proper social script.

This may go a considerable way toward explaining certain puzzles involving patents, such as the puzzle of start-up financing. As I have mentioned above, it seems clear as a factual matter that before investing in a start-up technology firm, venture capitalists like the firm to hold patents.[110] Exactly *why* venture

107. *Cf.* William Hubbard, *Inventing Norms*, 44 CONN. L. REV. 369, 374–88 (2011) (collecting examples of positive social attitudes towards patents and innovation).

108. *See supra* notes 15–16 and accompanying text.

109. *See supra* notes 68–70 and accompanying text.

110. *See supra* notes 22–23 and accompanying text.

capitalists prefer to see patents is more of a mystery.[111] Economists looking at the question have searched for some efficiency rationale, such as signals of management competency; the results of such investigations are equivocal.[112] The most straightforward explanation may simply be the new institutional suggestion that venture capitalists look for patents as a marker of innovation because patents are what innovative firms are supposed to have. This is of course somewhat tautological; but to the extent that patents embody a social trope of innovation that is pervasive throughout the field, the tautology would come as no surprise to new institutionalists.

A rather different type of patent signaling has been suggested by some commentators drawing from the larger scholarly literature on expressive law.[113] This literature suggests that one function of legal imperatives, particularly in areas such as constitutional and criminal law, is to communicate certain values, whether or not the law is successful in directly altering behavior. Some patent scholars have suggested that certain patent doctrines may accomplish similar goals; for example, otherwise ineffective limitations on patentable subject matter might serve to legitimate patent law by communicating to a skeptical public certain limitations and aspirations on the ambit of the patent system.[114] This is a rather different type of expression than that contemplated by new institutionalism, although the state is certainly an organization permeated by social institutions. Examination of the patent field might well reveal parallels in adoption of patent tropes by the United States Patent and Trademark Office or other agencies such as the United States Trade Representative.

Related to its consideration of social scripts, and its emphasis on organizational replication, is new institutionalism's rejection of the rational actor models that have dominated eco-

111. *See* Jessica Silbey, *Patent Variation: Discerning Diversity Among Patent Functions*, 45 LOY. U. CHI. L.J. 441, 459 (2013) (discussing ethnographic data from patent practitioners indicating that patents are an "empty placeholder" for some value criterion investors are seeking).

112. *See id.*

113. *See, e.g.*, Timothy R. Holbrook & Mark D. Janis, *Expressive Eligibility*, 5 U.C. IRVINE L. REV. 973 (2015) (arguing that patent eligibility rules perform expressive functions); *see also* Jeanne C. Fromer, *Expressive Incentives in Intellectual Property*, 98 VA. L. REV. 1745 (2012) (discussing expressive functions for intellectual property law).

114. Holbrook & Janis, *supra* note 113.

nomics and related social sciences.[115] This strikes me as an additionally appealing feature of the new institutional approach, recognizing that even if individuals behave as economically rational actors—a dubious proposition—there is no reason to believe that the emergent behavior of organizations, constituting groups of such individuals, will necessarily be in any sense economically rational. This in turn suggests that there is no reason to believe that the observed behavior of corporations, universities, or other organizations in procuring, holding, or enforcing patents will be either coherent or rational. Since there is little evidence that patenting behavior is rational in the sense predicted by rational actor models, it may be time for models that are not dependent on such assumptions. Ceremonial patenting is an excellent candidate for such an explanation that is coherent with other observed activity of large organizations.

At the same time, note that none of this necessarily precludes patents from acting, at least sometimes, as an incentive to innovation, nor for that matter of acting sometimes as a signal as to managerial quality and the like.[116] A white coat and a stethoscope are integral to the cultural persona of the physician, but no doubt the coat does protect the wearer's street clothes from stains, and nothing stops the physician from using an otherwise ceremonial stethoscope for diagnostic purposes when appropriate. No doubt once one has a stack of ceremonial patents, they can be sometimes put to use as collateral, or deployed as a litigation deterrent, or engaged in the myriad other ways that commentators have suggested patents may be used.[117]

A. LOOSE COUPLING

Patent convention and actual practice may also entail exactly the type of loose coupling predicted and explained under new institutionalism.[118] Such effects are perhaps most striking in the case of university technology transfer offices. Since the Reagan-era passage of the Stevenson Technology Transfer Act and the Bayh-Dole Act, universities have been permitted and

115. *See supra* notes 27–29 and accompanying text.
116. *See supra* notes 13–16 and accompanying text.
117. *See supra* notes 13–14 and accompanying text.
118. *See supra* notes 79–84 and accompanying text.

encouraged to retain ownership of patents arising from federal research funding.[119] Major research institutions have established technology transfer offices to manage the acquisition and licensing of such patents.[120] This seems a sensible reaction to the accumulation of patents in universities, but presents a fiscal puzzle. Empirical evidence suggests that university technology transfer seldom results in appreciable income for the university, and technology transfer offices in many cases will consume more resources than they generate.[121] Logically, in terms of money spent and money earned, one might expect universities to forgo patent acquisition. And yet such programs are common.[122]

This may be due to loose coupling between the functional and mythical structures of universities. Patents and associated technology transfer structures may be playing a separate, ceremonial, non-pecuniary role for research universities. Public universities are under perennial pressure to justify their consumption of taxpayer subsidies. Private universities are not free from such pressures, having to justify their activities to alumni and to philanthropic donors, a fundraising imperative that public universities increasingly share. The existence of a technology transfer office allows universities to demonstrate that the university is "giving back" to the community, stimulating local business and economic growth by moving the fruits of research into the commercial sector. Tech transfer programs al-

119. *See* DAVID C. MOWERY ET AL., IVORY TOWER AND INDUSTRIAL INNOVATION: UNIVERSITY-INDUSTRY TECHNOLOGY TRANSFER BEFORE AND AFTER THE BAYH-DOLE ACT IN THE UNITED STATES 4 (2004); Arti K. Rai & Rebecca S. Eisenberg, *Bayh-Dole Reform and the Progress of Biomedicine*, 66 L. & CONTEMP. PROBS. 289, 290 (2003); Jerry G. Thursby & Marie C. Thursby, *University Licensing and the Bayh-Dole Act*, 301 SCIENCE 1052, 1052 (2003).

120. *See* Jerry G. Thursby & Marie C. Thursby, *University Licensing*, 23 OXFORD REV. ECON. POL'Y 620, 620 (2007).

121. *See* WALTER D. VALDIVIA, CTR. FOR TECH. INNOVATION AT BROOKINGS, UNIVERSITY START-UPS: CRITICAL FOR IMPROVING TECHNOLOGY TRANSFER 1 (2013) (noting that the typical tech transfer model is unprofitable for most universities); Irene Abrams et al., *How Are U.S. Technology Transfer Offices Tasked and Motivated—Is It All About the Money?*, 17 RES. MGMT. REV. 18, 18 (2009); Brian J. Love, *Do University Patents Pay off? Evidence from a Survey of University Inventors in Computer Science and Electrical Engineering*, 16 YALE J.L. & TECH. 285, 286 (2014); Thursby & Thursby, *supra* note 120, at 622.

122. *See* Lorelai Ritchie de Larena, *The Price of Progress: Are Universities Adding to the Cost?*, 43 HOUS. L. REV. 1373, 1412 (2007).

so allow the university to demonstrate that they are in some sense earning their keep, pursuing licensing business opportunities as a funding source, and not simply sponging off the largess of the taxpayers or of private donors. Thus university patenting and patent licensing may serve a largely ceremonial function, even if such programs seem irrational from the perspective of actual revenue generation.

The concept of loose coupling seems apparent in numerous other patent settings. The great patent scandal of the early twenty-first century has been the rise of firms known variously as "non-practicing entities" (NPEs), "patent assertion entities" (PAEs), or pejoratively as "patent trolls."[123] These firms acquire a large portfolio of unused dormant patents, and then actively license and enforce them for revenue, as their primary business activity.[124] This practice has created not only an extensive critical scholarly literature, but an enormous outcry among other affected businesses in the information and communication sector.[125] This has prompted reaction from both the judiciary and from Congress. Patent trolling appears to be directly responsible for a number of judicial changes in patent doctrine and procedure, and is also substantially responsible for the extensive legislative overhaul of the patent statute that took effect in 2013.[126]

The most striking feature of this patent phenomenon is that these PAEs have deployed patents in precisely the way that patents were supposedly intended to be used, and in the way that, as previously mentioned, has been puzzlingly absent from the vast majority of patents issued: patents held by "trolls" are actually licensed and enforced. Indeed, the acquisition and assertion of patent portfolios by trolls takes seriously the pervasive trope in patent parlance that these are property rights, like any other property rights, and comparable to the

123. Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 459 (2012).

124. *See* Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1588 (2009).

125. *See, e.g.*, John R. Allison et al., *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1 (2009); Mark A. Lemley & Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117 (2013).

126. Dan L. Burk, *Patent Reform in the United States: Lessons Learned*, REGULATION, Winter 2012–2013, at 20.

paradigm of property rights in land.[127] The business model adopted by PAEs looks in many respects very much like the acquisition and management of tangible property such as real estate portfolios. But actually treating patents as property has created an uproar. The patent system appeared to work fairly well when patents were largely ceremonial, that is when the myth of exclusive rights was only loosely coupled to the actual deployment of patents. But when practice began to align with the pervasive social narrative of property, the system was thrown into crisis.

Similar evidence of loose coupling may also be extant in the biotechnology field. Patent scholars have long noted the potential for a breakdown of research in the biotechnology area due to a crowded field of overlapping patents.[128] Biotechnology researchers face a thicket of patents that may constrain their freedom to operate, resulting in a potential "anti-commons" in which research and development could grind to a standstill due to the necessity of clearing multiple licenses. Puzzlingly, despite the presence of densely overlapping patents, biotechnology research has gone forward—much of the anticipated thicket has now been cleared by recent Supreme Court jurisprudence[129]—but there was little evidence of deterred research be-

127. *See* Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108 (1990) (drawing parallels between intellectual property and tangible property); David Fagundes, *Property Rhetoric and the Public Domain*, 94 MINN. L. REV. 652 (2010) (advocating the comparison of intellectual and real property); Richard A. Epstein, Professor, Univ. of Chi., Remarks at the Aspen Summit: The Structural Unity of Real and Intellectual Property (Aug. 21, 2006) (transcript available in Release 13.24 from The Progress & Freedom Foundation) (discussing the strong similarities between intellectual property and other types of property). *But see* Julie E. Cohen, *Property as Institutions for Resources: Lessons from and for IP*, 94 TEX. L. REV. 1, 32–56 (2015) (distinguishing characteristics of intellectual property from other categories of property); Mark A. Lemley *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 141–48 (2006) (discussing the fallacious comparison of intellectual property to real property).

128. *See* Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 698–99 (1998).

129. *See* Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107 (2013) (holding that naturally occurring genomic DNA patents comprise ineligible subject matter).

fore the court's intervention.[130] Several studies investigating this lack of a biotechnology anti-commons effect have shown that the predicted crisis failed to emerge, not due to any clearance or withdrawal of the threatening patents, but rather because researchers simply ignore them.[131]

Such studies show the narrative of biotechnology patenting is not merely loosely coupled, but almost entirely *un*coupled from actual practice. Conventional narratives regarding innovation, and biotechnology in particular, tell us that strong patent rights are essential to the development of a robust technical sector, characterized by small start-up firms.[132] In practice, however, we find that the majority of such patents are neither licensed nor enforced, allowing necessary, but potentially infringing, research to proceed. And, as in the case of the public school study previously described, or as I have suggested is the case for patent trolling, one similarly suspects that the re-coupling of narrative and practice in biotechnology, to enforce and license the patents, would result in enormous disruption to the furtherance of biomedical research.

B. INSTITUTIONALIZED PATENT LAW

As described above, one of the most active areas of current new institutional inquiry examines how institutionalized practices within organizational fields shape the content and meaning of formal law.[133] One would expect that patent law, too, has been profoundly shaped by the institutionalized practices of the patent field. Patent law is a relatively insular area of practice, encompassing a highly specialized appellate court that hears patent cases, a specialized federal agency that reviews and grants patent applications, and a specialized cadre of legal practitioners with their own distinctive credentials and associations.[134] Lobbying, favoritism, and "capture" of governmental

130. *See* Rebecca S. Eisenberg, *Noncompliance, Nonenforcement, Nonproblem? Rethinking the Anticommons in Biomedical Research*, 45 HOUS. L. REV. 1059 (2008) (summarizing and interpreting empirical studies).

131. *See* John P. Walsh et al., *Effects of Research Tool Patents and Licensing on Biomedical Innovation*, *in* PATENTS IN THE KNOWLEDGE-BASED ECONOMY 285, 303 (Wesley M. Cohen & Stephen A. Merrill eds., 2003).

132. *See* Robert P. Merges, *A Transactional View of Property Rights*, 20 BERKELEY TECH. L.J. 1477, 1513–19 (2005).

133. *See supra* notes 75–78 and accompanying text.

134. *See* Burk & Reyman, *supra* note 12, at 174–76 (describing the institutional constituencies surrounding patents).

patent actors such as the United States Patent Office, the Congressional committees covering patents, and the Court of Appeals for the Federal Circuit, are a constant concern. But the question here is less the conscious legalization of preferential treatment—although that certainly may play a role in organizational practice—than the incorporation of routine, habitual, unremarkable background assumptions of the field into formal law.

It is likely, then, that expectations within the field—expectations of patent attorneys, patent owners, patent licensors and licenses—have over time become formally incorporated into the legal regime. There are undoubtedly myriad examples of such "bottom up" or "endogenous" institutional additions to patent law, but I will offer here only one illustrative historical example. Modern patent documents end with a series of numbered sentences called "claims" that are intended to delineate the technological boundaries of the inventor's patent rights.[135] But patents did not always include claims. Early nineteenth-century patents consisted only of what we would now term the disclosure portion of the document.[136] Then, in response to court decisions invalidating patents that seemed to encompass old technology, patent drafters began to break out as a separate sentence an explicit statement identifying the novel portion of the invention.[137] This was not a substitute for the description, nor was it formally required; it was merely a textual device intended to highlight and distinctly state what was novel.

Including such separate statements in patent applications became common practice among patent professionals, then became an expected feature of the patent, and then in the mid-nineteenth century became formally required by statute as part of the patent document.[138] Today patent claims are not merely expected, they are required as a matter of statute.[139] And in the interim, they have become central to patent practice. An exten-

135. *See* DAN L. BURK & MARK A. LEMLEY, THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT 10–13 (2009) (explaining the structure of patents).

136. *See* William Redin Woodward, *Definiteness and Particularity in Patent Claims*, 46 MICH. L. REV. 755, 757–58 (1948).

137. *See* Karl B. Lutz, *Evolution of the Claims of U.S. Patents*, 20 J. PAT. OFF. SOC'Y 134, 139–41 (1938).

138. *See* RIDSDALE ELLIS, PATENT CLAIMS 2–4 (1949).

139. *See* 35 U.S.C. § 112(b) (2012).

sive body of doctrine and practice has grown up around the drafting of claims, the structure of claims, and the interpretation of claims.[140] The administrative process of patent procurement largely revolves around the formal proposal and approval of claim text;[141] similarly, the judicial process of patent enforcement largely revolves around the construction and application of claim text.[142] The pervasive incorporation of claiming into patent law thus indicates how institutionalization of a legal drafting practice can come to shape the field.

CONCLUSION

I conclude with a few words regarding the significance and possible direction of the suggestions I have made here. The new institutional approaches that I have suggested allow for a conversation about the mythology of patent law even though they reject, or at least circumnavigate, the economic incentive paradigm for patents. This is not an unfamiliar path for legal scholarship, although it may be novel for the patent field. New institutionalism has for the last two decades been a fixture of the "law and society" school of hybrid legal and sociological analysis,[143] having been deployed both theoretically and empirically to examine a wide range of legal institutions.[144] But there has to date been no extension of its tenets to consideration of the patent system; for that matter, sociological analysis of any kind directed toward the patent system has been a rarity.[145]

140. *See* Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1748–50 (2009) (describing the function and use of claims).

141. *See* BURK & LEMLEY, *supra* note 135, at 13–15 (summarizing the process of patent prosecution).

142. *See* Burk & Lemley, *supra* note 140, at 1749–52 (discussing judicial claim construction).

143. *See* Mark C. Suchman & Lauren B. Edelman, *Legal Rational Myths: The New Institutionalism and the Law and Society Tradition*, 21 LAW & SOC. INQUIRY 903 (1996) (mapping out applications of new institutionalism to law).

144. *See* Black, *supra* note 28; Talesh, *supra* note 77, at 979 (reviewing the application of new institutionalism to law).

145. Notable exceptions are found in William Hubbard's exploration of patenting and social norms and in Laura Pedraza-Fariña's application of the community of practice framework to patentable innovation. Hubbard, *supra* note 107; Laura Pedraza-Fariña, *Patent Law and the Sociology of Innovation*, 2013 WIS. L. REV. 813.

I have suggested here several likely areas for application of new institutional analysis, and I have primarily engaged the literature on social scripts or tropes, focusing primarily on the cognitive strand of research. I have not discussed here the rest of the "three pillars" of new institutionalism,[146] such as coercive or normative influences, but they likely offer similarly attractive sites of patent research, and I would anticipate lines of productive scholarship investigating instances where these influences intersect.[147] In some instances the influence of one or another of these sources may be more pointed or pervasive. Certainly the coercive or regulatory pressures generated by the patent system should play an important role in organizational structures, perhaps where organizations anticipate litigation.

For example, I have noted above that virtually all U.S. research universities have technology transfer offices and suggested they have ceremonial explanation for their continued existence.[148] But that explanation surely does not operate in isolation. To some extent the proliferation of such offices may be simply mimetic, due to imitation of other research universities that have instituted technology transfer offices. And to a substantial degree, implementation of such offices is regulatory or coercive, due to the opportunities and requirements for ownership of patented technologies arising from federally funded research, imposed under the Bayh-Dole Act and the Stevenson Technology Transfer Act.[149]

Overall what I have proposed of course is an extended hypothesis that requires empirical verification. This may also chart a path unfamiliar to patent scholarship; verification or refutation of my suggestions lies in the kind of "thick" descriptive ethnography that has been largely lacking in patent studies.[150] While empirical studies of the patent system are all the rage, most of what has been done to date tends to simply quantify activity, without tying the numbers generated to any

146. *See* SCOTT, *supra* note 38, at 33–52 (deploying the terminology of "three pillars" for new institutional scholarship).

147. For an initial foray into the normative structure of patenting, see Hubbard, *supra* note 107.

148. *See supra* notes 118–21 and accompanying text.

149. *See* Thursby & Thursby, *supra* note 119.

150. Here Jessica Silbey's ethnographic study of creativity and innovation offers a welcome exception. JESSICA SILBEY, THE EUREKA MYTH: CREATORS, INNOVATORS, AND EVERYDAY INTELLECTUAL PROPERTY (2015).

broader social theory or framework.[151] As Jessica Silbey has pointed out, such studies may give us little sense of what is actually occurring in the intellectual property system, because they are not formulated to do so.[152] They neither look for evidence of established social frameworks, nor attempt to formulate new frameworks within which the social action of intellectual property law might be generally understood.[153]

Application of new institutional analysis along the lines I have suggested offers not a justification for intellectual property regimes, but an explanation as to how they are functioning. Justifications, particularly the evidentiary justifications that most interest Professor Lemley, might need to wait for explanation. The most sensible way forward may be to simply accept that patents have settled into particular social roles as part of the ecology of business and technical innovation. We can then begin to determine just what role patents are playing. This may in turn lead to some discussion of whether those roles are a good thing or a bad thing, but the first order of business is to follow patents in action and build some understanding of their social function.

This stance is entirely pragmatic, and largely agnostic with regard to the social value of patents. The patents are there, they are doing something, and given the time and effort invested in them, whatever they are doing is obviously of enormous significance to the communities that surround them. Patents may or may not be justified on grounds of efficiency, fairness, virtue, or any other conceivable criterion. But taking the patent system as a given, which in the foreseeable future is unlikely to either disappear or to undergo radical change, allows us to focus on how, rather than why the system is operating, and opens the field for sustained inquiry on the sociology of patenting.

151. There are also a few welcome exceptions to this trend, such as Laura Pedraza-Fariña's work, *supra* note 145, or Laura Foster, *Patents, Biopolitics, and Feminisms: Locating Patent Law Struggles over Breast Cancer Genes and the Hoodia Plant*, 19 INT'L J. CULTURAL. PROP. 371 (2012).

152. *See* Silbey, *supra* note 111, at 448–52.

153. *See id.*